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IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF CALIFORNIA

SAN FRANCISCO DIVISION

UNITED STATES OF AMERICA,

Plaintiff,

vs.

JONATHAN JOSEPH NELSON, et al.,

Defendants.

Case No. CR-17-00533-EMC

MEMORANDUM OF POINTS AND AUTHORITIES IN SUPPORT OF MOTION TO EXCLUDE OR LIMIT THE TESTIMONY OF FBI OR OTHER EXPERT WITNESSES TESTIFYING ABOUT CELL PHONE COMMUNICATIONS AND LOCATIONS BASED ON HISTORICAL CELL CALL DETAIL RECORDS AND PROPRIETARY MAPPING SOFTWARE [*DAUBERT* AND F.R.E. 403]; MOTION FOR EVIDENTIARY HEARING

Date: March 3, 2021
Time: 9:00AM
Dept: The Honorable Edward M. Chen
District Court Judge

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I. INTRODUCTION

In this motion, Brian Wendt raises a series of arguments which frame objections to the "routine" use of CAST related evidence based on the underlying science and lack of disclosures. These objections have not been framed or raised collectively in other CAST related litigation though specific aspects have been. The collective concerns raised here suggest a fundamental lack of reliability which created the potential to mislead the jury regarding the substantive acts including the alleged killing of Joel Silva.

The Government has proposed to call an FBI Agent with a CAST Unit affiliation, Special Agent Meredith Sparano, to testify about her analysis and opinions about historical cellphone communications from more than six years ago in three different geographical areas of the eastern and western United States. What is intended is not only discussion of cellphone and cell network operation, but also the use of propriety, largely undisclosed, law enforcement related mapping and display processes that will display the opinions and analysis. That testimony, and the related proposed exhibits, are part of the proposed proof of numerous charged acts, and the details surrounding the July 15, 2014, killing of Joel Silva. The Government characterizes this opinion testimony as 'routine'. It further described it as merely a matter of "popping it into a program that mapped out where the towers were" rather than scientific and technical evidence.[1] This notwithstanding the fact (discussed in this brief) that several courts have specifically described the endeavor as involving expert testimony subject to FRE 702 scrutiny. The vehicle for this testimony is an FBI Agent whose background and training do not provide her the necessary scientific and technical background to explain the actual methodologies and analytical processes involved. And at the same time, notwithstanding several discovery requests, the defense has still only been provided with the barest available information about the mapping and analysis computer software used by Agent Sparano in

[1] From AUSA Lina Peng's argument to Judge Beeler, in re discovery issues, on December 15, 2020 at RT 17:20-21.

this case to interpret the inputted data.

The Wendt defense objects to the proposed evidence. In doing so, it offers nine arguments rooted in a discussion of the pertinent law with references to relevant literature and materials. These arguments can be refined, for introductory purposes, into three main categories. First, because of several interrelated matters, the testimony does not meet the FRE 702 thresholds and it is likely to be misleading. The associated mapping is currently presented as argument. It is misleading because it does not address what several courts, including Judge Gonzalez Rogers in *U.S. v. Cervantes*, 2015 U.S.Dist. LEXIS 127048, 2015 WL 5569276 (N.D.Cal, September 22, 2015) and several other courts (in published rulings) have recognized to be the most robust method to describe the general location of *a single* cellular hand unit in relation to a cell tower. That method is drive testing which is referred to in Agent Sparano's Declaration but was *not* used in this case. And as was discussed in *United States v. Morgan*, 292 F.Supp.3d 475, 278-9 (D.DC, 2018), even drive testing cannot "…perfectly replicate how a cellphone would interact with a network on a past date".

Here, the Government is proposing that Agent Sparano testify based on her use of proprietary software, exclusively reserved for law enforcement, which in prior cases has been unavailable to defense counsel. It has also been described by at least one CAST Agent as unavailable for scrutiny (of the algorithm) because it is proprietary.[2] In the words of Larry Daniel, an expert in the field who also works with a company involved in phone analytics has cautioned that mapping should be based on "known factors…" and he further cautions about the misuses of automated mapping software.[3] "…[T]he proper way to show this information on a map was shown [in the book] using graphics that do

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[2] Defense counsel in this case (undersigned) sought access to information about ESPA mapping software through the purveyor and were not answered by Gladiator Forensics, the purveyor.

[3] Daniels, *Cell Phone Location Evidence for Legal Professionals: Understanding Cell Phone Location Evidence from Warrant to the Courtroom* (2017) p. 55-57

not overstate what is known to the analyst/expert."[4] As Daniels adds—importantly: "Remember no one ever knows where the cell phone is. The best an expert can do is provide the cell tower locations used by the cell phone and the direction of the sector radio antennas when known"[5] Significantly, when he published the quoted statement, Mr. Daniel was a principal consultant to Guardian Digital Forensics—the purveyor of ESPA (used in this case). The Government does not reveal any of the specifics of Agent Sparano's mapping processes beyond a few basics. The Government is prepared to assume this Court will "…admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert." *General Electric Co. v. Joiner,* 522 U.S. 136, 143-47 (1997).

Second, the Government has (as occurred prior to the last *Daubert* hearing) left the defense without disclosures required by Rule 16 (a)(1)(G). And as with the last hearing—this Court should anticipate questioning of Ms. Sparano specific to what information she, the FBI, and their software purveyor, are not making available for review by the Court, or the defense. It took this Court's intervention, two years plus into the case, to get the name of the vendor of the critical software use to map, include commentary and various entries, and create exhibits illustrating what are essentially Agent Sparano's conclusions—and the Government's ultimate argument about patterns and locations of communication. [6] As is confirmed by caselaw discussed below, to date, there is little indication that the Government has ever made the effort to obtain methodological detail, or error rate data, from Gladiator Forensics about its ESPA and related cell phone related processes.

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[4] Daniels, p. 57

[5] Daniels, p. 57

[6] Agent Sparano avers in her August 12, 2020 declaration (which was appended to the above-described August 14 letter) that in general terms when an historical record analysis is conducted the FBI CAST team involves: call detail records; a tower list; address information/facts concerning the crime; and "a mapping platform similar to Microsoft Map Point or Google Earth." On January 15, 2021, after a directive from Judge Chen, the Government identified the ESPA software used in this case as "a product of Gladiator Forensics." From AUSA Lina Peng's January 15, 2021 letter to all defense counsel.

Third, and as previewed above, the Government is not calling an expert on cellphone systems, radio wave propagation, or mapping software here. Unlike the situation in one of the reported cases below, it is not calling an agency-wide specialist in electronic technology to address the issues and discuss how GPS and mapping software showed the accused's boat in the location in which it was photographed. It is calling a Special Agent who—like others—has received training of various kinds, including training in cell phone related investigation. But Agent Sparano, who will have testified twice (or so) on cell phone issues when she is called here, is not expected to profess any specialized understanding of the operation of the software that she employed in this case that will permit her to inform the Court about the technological reliability of her endeavor.

In the end, the defense has been notified that she will offer a basic qualifier to her testimony—which is generally ordained by existing rulings.[7] But her disclosures to date, as argued extensively below, do not contain the various limitations that have been imposed by District Courts especially where mapping has been involved. Presumably, the Government's opening bid here is to ask the Court to avoid such limitations and to go light on the scrutiny of Agent Sparano's maps with embedded notations and commentary, and other illustrations.

Agent Sparano is going to be asked to help explain what amounts to hearsay and argument on maps the construction principles of which she is likely to say that she does not know. If this testimony is permitted – without limitations and previous disclosures – the jury will be lead to believe that science places a cell phone in a specific place at a specific time which would, given the Government's theories of culpability, would be extremely and unfairly prejudicial – exactly as Larry Daniel warned.

The Wendt defense has endeavored, with the help of counsel from other defense

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[7] For example the Seventh Circuit's ruling in *U.S. v. Grissom*, 760 Fed.App'x 448, 452 (7th Cir., 2019)[unpublished] summarized some of the existing views of Federal courts and explained that location opinion is admissible only "as long as the expert acknowledges that the data shows only a phone's approximate location."

teams (though not all are joining in this motion) to provide the Court a set of specific objections that take into account a full measure of rulings from Federal courts on cell phone evidence. What should emerge here is that the Government has not followed what it has recently described in at least one other reported case (through a CAST Agent) as being the most accurate form of analysis of historical cell phone analysis—the combination of computerized review and drive testing. This—as far as the defense can tell—is one of the first challenges that integrates disparate and sometimes solitary objections about cellphone evidence into a more global set of objections that apply to the proposed expertise.

In bringing its objections, the defense respectfully notes that most of the rulings entered by Federal courts that have focused on the admissibility of historical call detail records to permit opinions to be offered about a general cell phone location do not address mapping issues. The Ninth Circuit has observed that where a timely authentication objection is made concerning a software-based mapping system that contains location entries permitted by the person using the program, authentication issues may arise. *United States v. Lizarraga-Tirado*, 789 F.3d 1107, 1110-11 (9th Cir., 2015). The Wendt defense is objecting to the evidence under F.R.E. 702, 901(a), and 403.

One of the most recent summaries of rulings by Federal courts on cell phone issues that includes a discussion of a court's role in assessing maps produced as exhibits is from the Middle District of Tennessee in *U.S. v. Frazier*, 442 F.Supp.3d 1012 (M.D.Tenn, 2020) at 1022-26. As will be discussed below in greater detail, having reviewed the case law on cell phone location issues, the Tennessee District Court addresses in passing problematic issues that arise through the Government's use of 'slides,' annotated maps, or illustrations that are essentially argumentative as part of the proffering of the cell phone expert opinions. *Id.*, at 1025-26.

Here, a separate and additional issue currently exists, which is (as noted above) that there is no indication that the Government can provide a foundation for the expression of any opinion as to how the mapping technology it has used develops and

then exhibits the illustration of a particular map, with inputs including illustrations of cell phone towers, coverage areas, and locations. Mr. Wendt has stated an extensive basis to exclude the evidence under F.R.E. 403. These are matters that will need to be aired out.

The Court should hold an evidentiary hearing. It should also exclude or specifically limit Agent Sparano's opinion testimony.

II. DISCUSSION AND AUTHORITIES

As explained above, the defense is aware that there are published rulings and unpublished orders that have admitted opinion testimony based on historical cell phone records of varying sorts. Judge Alsup did so in the so-called MS-13 case (though he limited the scope of permissible evidence), as did Judge Gonzalez Rogers in *U.S. v. Cervantes*, 2015 U.S.Dist. LEXIS 127048, 2015 WL 5569276 (N.D.Cal, September 22, 2015). There are other District Courts that have considered objections to the admission of cell phone analysis, for example *U.S. v. Machado-Erazo*, 950 F.Supp.2d 49 (D.DC, 2013), a ruling which points out that several courts have admitted cell phone analysis.

The issues presented here have to do not only with what analytical methodology has been disclosed by the Government, but also with the vagaries and uncertainties about the reliability of illustrative slides, charts, PowerPoints, and maps that are sought to be introduced by the Government. For reasons explained here, Agent Sparano's opinions and exhibits should be excluded.

A. The Proposed Sparano Testimony

In response to several discovery requests, the Government has made varying claims about the nature of Agent Sparano's proposed opinion testimony. Before Judge Chen on January 13, 2021 during a status hearing at which the subject of CAST disclosures were discussed in some detail, the Government referenced a 'simple' process, and the defense pointed to Agent Sparano's disclosure, referenced above, made in declaration form on August 14, 2020, and in a declaration that appears at Expert 2097-2102, signed by Agent Sparano on August 12, 2020. Agent Sparano explained the process of historical cell site analysis as follows in paragraph 13 of the just-described

declaration.

> In this case, I conducted historical cellular analysis in accordance with the methods laid out above. First, I was provided sets of CDRs and address information/facts concerning the crime, specifically a suspected homicide that occurred on or about July 15, 2014, in the vicinity of Fresno, California. I understand that the CDRs provided to me were obtained from search warrants executed in this case for a set of nine phone numbers of interest in the suspected homicide. The CDRs contained information regarding the towers accessed for each phone call, text message, and data session. I also obtained the tower list from the cell phone provider for the relevant time period. I then analyzed the records and compiled a report, which depicted the cellular activity of the phone numbers of interest relevant to significant times and locations of the suspected homicide. As part of creating the report, I imported the CDRs and tower information into a mapping program to obtain a visual depiction of the tower locations accessed by each target phone number during relevant times to the crime. No drive test was performed in this case.[8]

The 'mapping program' discussed by Agent Sparano was the subject of litigation both before Judge Beeler on December 15, 2020, and then before Judge Chen when the sufficiency of the Government's disclosures was reexamined by Judge Chen on January 13, 2021. Specifically, the defense had urged the Court on January 13, 2021 to assist the defense by directing the Government to clarify, through a description of the exact ESPA software used by the Government what was meant in the Government's July 13, 2020 disclosure letter [filed with the Court as Doc 1359-3 prior to the Judge Beeler September 15, 2020 hearing]. The letter in question in pertinent part explained:

> The peer review in this case was completed by two other CAST agents: Special Agents Michael Easter and Nathaniel Dingle. Special Agent Sparano used mapping software called ESPA to create the maps for draft presentation. Her peer-reviewers used Google Earth and CastViz.[9]

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[8] Last page of Agent Sparano's 8-12-2020 declaration, at Expert-02102.

[9] Excerpted from the Government's July 13, 2020 letter to defense counsel filed with the Court as Doc 1359-3.

On January 13, 2021, after extensive argument, this Court agreed that the Government should first designate the mapping software that had been revealed as 'ESPA' software and should also disclose the outcome of the peer review process. On January 15, 2021, in response to the Court's January 13 Order, the Government explained that "…the mapping program used by SA Sparano to create visual depictions is ESPA, which stands for Enterprise Sensor Processing Analytics. ESPA is a product of Gladiator Forensics. Additional information regarding ESPA can be found on Gladiator Forensics' publicly available website…."[10]

This history of disclosures is reviewed here in part because Agent Sparano's disclosures also involved what were labeled as 'FBI Cellular Analysis Survey Team' and 'Preliminary Historical Cell Site Analysis.' The first of these documents was prepared on July 5, 2019, and it consisted of a set of 53 pages apparently placed on a PowerPoint type presentation, containing explanations of the following: sample cell towers; atypical cell sites; orientations of typical cell towers; cell sectors; the summary of target phones (pertinent to individuals who are either defendants in this case or persons whose names appear in the discovery); towers and map locations around Santa Rosa and Fresno (both in California) and Lynn, Massachusetts.

The "summary" pages in these PowerPoints contain descriptions of various locations; overhead views of maps of given geographical areas, and then various purportedly historical cell site analyses of phone calls made over a period of time.

The illustrations prepared by Agent Sparano continue through purported maps of 'cell site activations;' descriptions of the placement of AT&T cell towers in various parts of the United States; time sequence descriptions of call locations.[11] A second disclosure was received by the defense as CAST Sparano-2. It contained an analysis much like the

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[10] From the Government's January 15, 2021 letter to Martín Sabelli and all defense counsel.

[11] The nomenclature and description come from an initial disclosure that was labeled CAST Sparano 1. The date on this disclosure was July 5, 2019.

one just summarized, with many of the same slides, but with the date June 4, 2019. That analysis was 24 pages long.[12]

On January 15, 2021, at the Court's instruction, the Government e-mailed a two-page letter disclosing the producer of its mapping software as Gladiator Forensics. (See exhibits appended to supporting declaration.)

B. Special Agent Sparano's CV

According to Agent Sparano's CV, she has been with the FBI since 2009, and has been a special agent in the Oakland Division of the FBI since June of 2015. Agent Sparano was an Electronic Surveillance Operations Technician with the FBI for three years beginning in March 2009; then a Staff Operations Specialist from April 2012 to January 2015 when Agent Sparano appears to have become an FBI Special Agent.

Agent Sparano reports being certified as a member of the CAST team beginning in September 2018. Agent Sparano's formal education is reported to be a bachelor's degree in Criminal Justice, and a Master's degree in Intelligence Studies. Agent Sparano spent time in the Boston area – one of the geographical areas at issue. She has also spent several years in California.

According to Agent Sparano's statement of 'relevant professional training' at the time of the production of the CV conveyed to defense counsel she had 'over 400 total hours in historical cellular records analysis in investigations, geolocation of phones, cellular network survey, and cellular phone protocols…" broken down into several described courses dating back to a basic course attended in 2014.

It appears that as of the time of the production of the CV that the defense has in hand, Agent Sparano had qualified once as an expert witness in cellular analysis – this in Los Angeles County Superior Court in 2019.

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[12] A logical interpretation of the two Sparano disclosures as they are described here might be that undersigned defense counsel may have mislabeled them as it appears that what is labeled in defense counsel's system as Sparano II predates Sparano I. Suffice it to say that there are two Sparano disclosures, one in June and the other in July 2019.

C. Objections to Agent Sparano's Opinion Testimony and Supporting Arguments

1. Based on the contents of her CV and her declaration and disclosures, Agent Sparano is not qualified to describe or establish the basis for, reliability of, or error rates related to computer-generated illustrations or maps of the purported exact locations of cell towers locations and handheld cell phones; the actual orientation and range of cell tower antennas involved in this case

Federal Rule of Evidence 104(a) explains that: "The court must decide any preliminary question about whether a witness is qualified, privilege exists, or evidence is admissible." This motion raises objections to two of these three subjects. This first objection is focused on Special Agent Sparano's qualifications to express certain categories of opinions that according to F.R.E. 702 require a witness "…who is qualified as an expert by knowledge, skill, experience, training, or education…." F.R.E. 702. Under F.R.E. 702(a), a threshold question is whether "…the expert's scientific, technical, or other special knowledge will help the trier of fact to understand the evidence or to determine a fact in issue…." F.R.E. 702(a).

The Ninth Circuit made reference to case law from other Circuits in explaining what an expert is under F.R.E. 702. *U.S. v. Hankey*, 203 F.3d 1160, 1168-69 (9th Cir., 1999). In *Hankey*, the Circuit cited *Jones v. Lincoln Electric Co.*, 188 F.3d 709 (7th Cir., 1999) as a source to consider on what qualified expert is. Relying on Seventh Circuit law, the *Jones* court explained that "…the opinion must be an expert opinion (that is, an opinion informed by the witness's expertise) rather than simply an opinion broached by a purported expert." *U.S. v. Benson*, 941 F.2d 598, 604 (7th Cir., 1991), *relied on in Jones, supra*, at 723-24. "Whether a witness is qualified as an expert can only be determined by comparing the area in which the witness has superior knowledge, skill, experience, or education with the subject matter of the witness's testimony." *Carroll v. Otis Elevator Co.*, 896 F.2d 210, 212 (7th Cir., 1990).

Objections to the admissibility of FBI Agent opinion testimony on cell phone data analysis linked to drive testing and historical call detail records have been addressed

under *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993)[hereafter '*Daubert*'] and *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999)[hereafter '*Kumho Tire*']. The District of Columbia District Court considered whether a CAST unit Agent could testify about approximate locations of a phone relative to a drive testing related process. This is a process by which an Agent with appropriate equipment goes into the field and actually drives in the vicinity of the scenes that are at issue in the case in question. The D.C. District Court explained that "[b]efore performing a drive test, an agent will cross-check a provider's tower list closest to the time the incident occurred with the provider's most current tower list at the time of the drive test to see if any changes have occurred to the tower or cellular network…." *U.S. v. Morgan*, *supra,* 292 F.Supp.3d 475, 480-81.

As explained by the *Morgan* court, the drive testing process used in that case involved a computer system that allowed the measuring of tower strength during the drive test and then the mapping of the output. In the *Morgan* ruling, the court made specific reference to the mapping system that is used by CAST – "ESPA" – that the *Morgan* court described as cross-referenced to drive testing: "After the drive test, the agent who performed the drive test runs data collected by his GAR [which collects information on radio frequency signals during the drive test] through a post-processing program, the ESPA, which depicts the breadth of each sector and illustrates towers of interest…." *Id.*, at 480-41.

Significantly, the *Morgan* court noted that "ESPA" – which is a matter of controversy in <u>this</u> case – involves a proprietary algorithm and process that CAST is not privy to and that CAST Agents cannot explain: "ESPA's algorithm is proprietary so CAST cannot evaluate the algorithm's accuracy outside the quality checks that Gladiator performs on CAST's equipment. [Citation to transcript omitted]. Agent Horan was not aware of any studies evaluating the accuracy of Gladiator's equipment and software.

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[Citation to transcripts omitted.]" *Morgan*, 292 F.Supp.3d 475, 480-81, fn.3.[13]

At this point, the details of Agent Sparano's actual training remain to be explored as a result of this motion. Assuming for the sake of argument that the Court finds that her CV fully accurately states her background, what she has available is training through various law enforcement training regimens specific to CAST and to forensic cell phone investigation. She has no background, training, or education in computer science, and apparently no ESPA-specific training that allows her to explain the design, coding, and computer science aspects of ESPA or the quality assurance measures of ESPA. According to the ruling in *Morgan*, drive testing is the case specific quality assurance mechanism.

There appears to be no case law that would support any finding that Agent Sparano is in a position to explain proprietary ESPA software operations in any detail—both published and unpublished rulings indicate that CAST assigned Agents claim to not have access to operating details like algorithms of the ESPA software. It does not appear that she would have the training or knowledge to undermine or contradict the description of ESPA cited by the *Morgan, supra*, court.

The points made immediately above are added to by the Ninth Circuit's ruling in *United States v. Lizarraga-Tirado*, which discusses a situation where – as is the case here – the defense raises an authentication objection to the use of a particular mapping software which, as the Court explained, would require the proponent of the evidence "…[to] have to establish [the software program's] reliability and accuracy." *Id.*, at 1110-11. *Lizarraga-Tirado* was focused on the use of the combination of a GPS system with entries made into Google Earth. There, the accused had not raised an authentication objection or objections about the analyst's lack of underlying qualifications to explained the processes of the software adequately. That is precisely what the defense is doing

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[13] Of some significance here is the fact that the Government has disclosed that Agent Sparano used mapping software from Gladiator Forensics (ESPA) and not GAR, the software package that allegedly allows estimation of actual cell phone coverage areas.

here. Moreover, unlike a program like Google Earth, ESPA is (as demonstrated in the appended exhibits) a software package offered by the producer to law enforcement agencies. Unlike arguably more common programs, as demonstrated by the Court's discussion of ESPA in *Morgan*, 292 F.Supp.3d at 480-81 and fn.3, since the algorithm and process is not only intended only for law enforcement, but is also proprietary and not discussed in any prior rulings as having been fully addressed in response to objections of the kind raised here, the Court will need to focus on whether Agent Sparano is qualified to address authentication issues. *Lizarraga-Tirado, supra*, 789 F.3d at 1110-11.

The fact that other Agents may have rerun some of the CDR data from this case through other programs to 'peer review' some of Agent Sparano's work [according to the Government's disclosures] is a largely unexplained event in the absence of the evidence about the peer review.

Unless the Government can establish that Agent Sparano has knowledge of the coding of the algorithms, the operational characteristics of the algorithms, the artificial intelligence related properties of the algorithms, and the methodologies used to verify the accuracy of the resulting maps *assuming no drive testing* either at or near the time of the charged crimes or thereafter, then the evidence that can be admitted through Agent Sparano's testimony should be limited based on a lack of pertinent qualifications.

2. The disclosure of Agent Sparano's materials does not satisfy F.R.C.P. 16(a)(1)(F) and (G) disclosure obligations as to the bases for her opinions as illustrated in maps and illustrations

The argument immediately above is incorporated here as though fully set forth.

Regrettably, the rulings that have addressed Government cell phone record interpretation have only rarely considered the extent to which the exhibits, illustrations, and 'maps' that the Government is preparing to use to 'illustrate' an Agent's opinion testimony have been reviewed or excluded for cautionary reasons. One useful starting place for this analysis is one of the most recent published orders of a District Court considering these matters – the above-cited *U.S. v. Frazier, supra*, 442 F.Supp.3d 1012, decided in 2020 in the Middle District of Tennessee. There, the court entered an

observation about the Government's use of a slideshow – a trial exhibit that "…contains testimonial statements, inferences, and conclusion." *Id.*, at 1025-26. In that case, a number of locations were described on the face of the maps as being 'facts.' The Court expressed its dissatisfaction with that approach: "The slideshow also contains pictures of different cell phone towers and specific 'cell sector examples,' without any indication of whether they are representative of the ones the cell phones allegedly used in this case. Additionally, the slideshow contains numerous graphs depicting the specific locations of cell phones in proximity to certain alleged specific areas of interest, without any indication of the variables and limitations inherent in the historical cell phone analysis methodology." *Id.*, at 1024-26, fn.4. The court concluded:

> Just as the government cannot oversell the methodology through testimony, it cannot oversell the methodology through the introduction of evidence. [Footnote omitted.]

Id., at 1024-26.

The court in that matter also 'flatly rejected' the notion that because some courts have admitted expert testimony related to the mapping of cell site data, the admission of illustrations and reports of the type used in that case should be considered automatic: "Not only does the Court not have before it the reports used in other cases, it has an independent obligation to determine whether an exhibit is or is not admissible." *Frazier, ibid.*, at fn.4.

Here, argumentative and potentially misleading mapping illustrations with a wide variety of entries and summaries on them proposed as trial exhibits need to be addressed based on the lack of disclosure of bases under F.R.C.P. 16(a)(1)(G) as well as under F.R.E. 403. The maps, PowerPoints, exhibits, and illustrations are being objected to under F.R.E. 403. Their probative value is substantially outweighed by a danger of misleading the jury and unfair prejudice.

The opinions here have not been verified by drive testing, a process that the supplier of the Government's mapping software apparently contemplates when cell tower

and all sector coverage is being estimated. As explained in Gladiator Forensics' description of its cellular phone related products, GAR is the product related to areas of cellular sector coverage affirmation.[14] The *Morgan, supra*, ruling presents a District Court's view on the utility of drive testing. One of the more recent rulings reviewing historical cell phone data, *U.S. v. Grissom*, 760 Fed.App'x 448 (7th Cir., 2019), which is not published, makes only brief mention that the location of cell phones is "admissible as long as the expert acknowledges that the data shows only a phone's approximate location." The ruling is very brief and does not reference the ESPA interface issue.

The *Grissom* ruling makes reference to a published ruling, *U.S. v. Hill*, 818 F.3d 289, 298-99 (7th Cir., 2016), which explained that a phone's use of a cell site "…did not mean that [the accused] was right at that tower or at any particular spot near that tower." The court described this as a 'disclaimer' that saved the FBI testimony on point. Moreover, the court also explained that as of that time: "A mathematical error rate has not been calculated, but the technique has been subject to publication and peer criticism, if not peer review. [Citations omitted.] The advantages, drawbacks, confounds, and limitations of historical cell-site analysis are well-known by experts in the law enforcement and academic communities." *Id.*, at 298-99.

There is precedent in the Ninth Circuit (and elsewhere) that underscores the need for the Government to produce foundational information when computer operations and software issues are central to important aspects of the Government's case against an accused. In *United States v. Budziak*, 697 F.3d 1105, 1112-14 (9th Cir., 2012), a case involving child pornography issues, the defense professed that neither discovery of the software produced enough information on the computer software functioning such that the defendant had the ability to respond to the charge. While the opinion in question seems unclear in its description of the extent to which the accused had access to software, the notion was that where the Government "…is the only party with access to that

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[14] See copies of Gladiator Forensics' website materials downloaded in January 2021.

software," and compelling disclosure arguments are made, it is an abuse of discretion for a court to deny access to the software. *Id.*, at 1113-14.

The ruling appears in line with some older rulings on the operation of certain data processing issues. The Second Circuit stated succinctly some time ago: "It is quite incomprehensible that the prosecution should tender a witness to state the results of a computer's operations without having the program available for defense scrutiny and use on cross-examination if desired." *U.S. v. Dioguardi*, 428 F.2d 1033, 1038 (2d Cir., 1920). *See also, U.S. v. Liebert*, 519 F.2d 542, 547-48 (3d Cir., 1975) [noting that where a party seeks to impeach the reliability of computer evidence, it is incumbent to provide "…opportunity to ascertain by pretrial discovery whether both the machine and those who supply it with data input and information have performed their tasks accurately."]

Admittedly, there is an unpublished ruling from the Eastern District of Michigan in *U.S. v. Robinson*, 2018 U.S.Dist. LEXIS 178824; 2018 WL 5077260 (E.D.Mich, October 18, 2018), in which the District Court denied the accused access to ESPA software through court order and provided the court with information to the effect that: "The provider [Gladiator Forensics] refused to provide any information and stated that the program is only available to law enforcement and is classified." 2018 WL 5077260, at *10-12. *Robinson*, however, is of limited value specifically because it involved a third trial of a case in which there had been cross-examination on prior occasions of the expert who employed the ESPA mapping program: "In fact, in the second trial, Bailey's counsel cross-examined [the government CAST agent] by focusing on the assumptions and limitations of his conclusions…." *Id.*, at *11-12.

Arguably, the ruling would not be in line with prevailing authority in the Ninth Circuit. But more compelling, of course, is the fact that the ruling was entered at a point at which there had been two prior trials in which mapping and cell phone issues had been the subject of discovery and examination. That is not the case here.

It is clear, especially given the specifics of the information made available to the defense by the Government, that there is an inadequacy of disclosure of foundational

information and bases. The Government essentially told the defense to access a public website that provides basic corporate publicity from Gladiator Forensics and informs the defense of Gladiator's involvement with law enforcement.[15]

In addition, none of the information summarized by the *Hill* court, of course, appears on any of Agent Sparano's slides, maps, declarations, or illustrations in this case. This adds to their potential for misleading the jury. The Court should rely on F.R.E. 403 to exclude them.

3. Mr. Wendt objects that there is insufficient authentication (F.R.E. 901) of Gladiator Forensics' ESPA software in combination with a lack of foundation that Agent Sparano has the qualifications to assist in authentication to permit the admission of opinion evidence that would include displaying ESPA mapping with location entries as part of the CAST opinion testimony; a similar objection applies to any proposal to reference peer review using Google Earth and/or CastViz

On January 15, 2021, in response to the Court's January 13 Order, the Government explained that "…the mapping program used by SA Sparano to create visual depictions is ESPA, which stands for Enterprise Sensor Processing Analytics. ESPA is a product of Gladiator Forensics. Additional information regarding ESPA can be found on Gladiator Forensics' publicly available website…."[16] Mr. Wendt objects that there is no authenticating evidence offered in the Government's CAST proffer or in the disclosures related to Agent Sparano's proposed testimony that indicate that the Government is undertaking to authenticate Agent Sparano's mapping evidence within the meaning of F.R.E. 901(a). Where such an objection is made, "a proponent must show that a machine is reliable and correctly calibrated, and that the data put into the machine (here, the GPS

[15] Undersigned defense counsel Philipsborn notes that he sought contact with Gladiator Forensics and actually filled out a request for information that is on Gladiator's website. To date, no response has been received, even though undersigned counsel professed enthusiastic interest at receiving the information. The undersigned did, it should be noted, correctly identify himself as affiliated with private practice as a lawyer.

[16] From the Government's January 15, 2021 letter to Martín Sabelli and all defense counsel as a result of the Court's January 13, 2021 Disclosure Order.

coordinates) is accurate. [Citation omitted.]" *Id.*, at 1110-11.

An example of an authentication process is referenced in the First Circuit's ruling in *United States v. Espinal-Almeida*, 699 F.3d 588 (1st Cir., 2012), a case in which individuals were prosecuted in a conspiracy to distribute drugs case. The Government introduced evidence taken from a GPS device that had been seized from a ship involved in the acts related to the conspiracy. A government forensic scientist who was in charge of all evidence related to portable media (*id.*, at 608-09) retrieved the GPS data and used both Garmin and Google Earth software to analyze the data from the ship's GPS. Of some significance, for obvious reasons, was that the accused had not objected to the GPS's admission at trial. *Id.*, at 609-10. The trial court had made comments indicating that she viewed GPS technology as commonplace, and she allowed the forensic scientist to explain how he had generated a map using the specific software. During the testimony, the jury was privy to the tracking map generated by the ship's GPS, and also about the plotting of coordinates with Google Earth software. The Circuit Court specifically found that the expert "…was not specifically asked, and did not precisely testify, whether the GPS and the software were in good working order or whether he was confident they produced accurate results." *Id.*, at 612-13. Nonetheless, the court observed that the data and the software-plotted courses "…were consistent with the location of the boat photographed…" during the investigation. *Id.*, at 612-13.

Here, as demonstrated in the introductory discussion and citations to cases including *United States v. Morgan*, 292 F.Supp.3d 475, there is already information considered by one Federal District Court Judge that at least the CAST Agent in *Morgan* could not have evaluated the accuracy of the algorithm used by ESPA, and that the Agent was not "…aware of any studies evaluating the accuracy of Gladiator's equipment and software." *Id.*, at 480-81, fn.3. In that case, of course, as is discussed throughout this pleading, part of the focus of the District Court's attention was on the fact that the analysis there involved a drive test over the same geographical area that the alleged criminal activity took place in, which had produced (according to the testimony in that

case) the most accurate type of retrospective analysis of cell phone communications and location available through use of the methodology employed.

Here, Mr. Wendt reiterates his objection that there is case law from those Circuits (including the Ninth) that have recognized the need for the defense to have access to computer software and to information "…on computer software functioning in the manner described by the government…" that should influence the Court's ruling. *U.S. v. Budziak, supra*, 697 F.3d 1105, 1112-14. In the section immediately above, dealing with the inadequacy of disclosures to the defense, the defense has complained that the Government has been unresponsive to discovery requests. The Government is essentially playing a shell game with both the Court and the defense, knowing that Gladiator Forensics has not been forthcoming with discovery and disclosures about ESPA. This was the point made in the District Court's above-cited discussion in *U.S. v. Robinson, supra*, 2018 WL 5077260, in reference to the portion of the ruling of a case that was pending its third trial in which the defense explained that it had tried to approach Gladiator Forensics – and was refused any information about access to the ESPA program because of the representation "…that the program is only available to law enforcement and is classified." *11-12.

The situation should actually put the Government in the position of either agreeing to cooperate in obtaining the disclosure of the program in the ESPA manual, and in providing information to assist in authentication as envisioned in the Ninth Circuit, or in the absence of that cooperation, the Court should find that the defense should not be penalized and suffer a lack of cross-examination and ability to attack reliability of the evidence because the Government is permitting a purveyor of software to avoid disclosing it or its operating details.

In this case, the testifying Agent is specifically being sent into court having worked with a form of software that is not available to the public, or commonly used. It is a program specifically designed for use by law enforcement, and – according to Gladiator Forensics' own web advertisement – it is part of a suite of programs that

includes the drive testing program. Under the circumstances, the Government needs to establish the program's reliability and accuracy, particularly because it was not employed as it has been in previously reported cases. The defense objects under F.R.E. 901(a).

In addition, without a more fulsome explanation of the operation of ESPA, the Government cannot overcome the objection that there are entries that were made in Agent Sparano's illustrative maps by hand or through operator programming. As the Ninth Circuit explained in *Lizarraga-Tirado*, 789 F.3d at 1109-10, when a computer program generates an entry on a map automatically, it is not an out of court statement by the operator within the meaning of F.R.E. 801(a) – it is not an assertion by a person. There is no hearsay problem. A hearsay issue arises where the operator has made manual entries into or notations on the map. *Id.*, at 1108-09.

Here, because we know nothing about the underlying configuration and operation of ESPA (notwithstanding the defense's multiple requests), neither the Court nor counsel would have any idea whether the program allowed Agent Sparano to make a series of entries that are case-specific on the face of her illustrations. It would appear that it did, and indeed there are mapping software packages, including Google Earth, that permit the consumer or operator to place certain "tacks" or entries on a given map.

Here, the defense objects (as noted below) that the entries on the ESPA maps are hearsay, and second, that whether they are or not, there are still fundamental authentication issues, given that the Government is seeking the admission of its illustrations and maps. The defense objects both under F.R.E. 801(a) and 901(a) that the output of Ms. Sparano's described work in this case cannot be admitted because it contains and displays hearsay, and because it has not been authenticated.

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a. The Court should consider that the maps or illustrations that are the output of some of Agent Sparano's work must be shown to display the current geography of target locations (including placement of roads, streets, buildings where pertinent, and obstructions) as well as applicable cell site characteristics, including antenna orientation and characteristics **pertinent to mid-July 2014**

The Indictment in this case references activity surrounding the alleged killing of Mr. Silva on July 15, 2014, and some related activities occurring around that same period of time. These allegations appear in Count 1, in the conspiracy to commit murder charged in Count 2, as well as in the allegation of murder in aid of racketeering in Count 3.

Agent Sparano's proposed testimony concerning the events surrounding the death of Mr. Silva – at least as discussed in terms of cell phone issues – concern a period of time that is more than six years removed from the present day. While the Government discloses that "ESPA then allows filtering by relevant dates, time, and phone numbers…" and that the ESPA program depicts "…the approximate locations of the cellular activity, as reflected in the CDRs."[17] This is essentially the Government's proffer. But the Government does not disclose any information that provides a basis for these statements, or that even demonstrates that ESPA software manuals support the statements. And as argued above, there is information in a published District Court ruling (*Morgan, supra*) indicating that at least in that case, a CAST Agent professed to not have an explanation of the operating characteristics of the algorithm in the program, or any error rates associated with its operation.

At this point, the Court has no specific evidence before it that would allow it to overcome the objections made up to this point – namely, that Agent Sparano's qualifications to testify as to the specific methodologies used here – are not made obvious by her CV. Second, the Government has to attempt to overcome the authentication

[17] From page 1 of the Government's January 15, 2021 disclosure to Martín Sabelli and all defense counsel.

objection.

Moreover, as explained immediately below, the Court must require authentication of the slides, maps, and illustrations used to represent the opinion evidence.

b. Nothing about the CAST Unit's 'peer reviewing' process other than the mere discussion of it in passing and its relation to Google Earth or CastViz has been disclosed, including the results of the peer review

The same type of analysis seen immediately above should also apply to the 'peer review' process that is discussed in the Government's oblique and incomplete disclosures concerning Agent Sparano's work.

Before this Court on January 13, 2021, the defense pointed out it had none of the results of the peer review process. That complaint did not move the Government to disclose anything further about the process or its results.

Since none of the process was timely disclosed, none of it should be admitted as part of the hearing, or at trial.

4. Agent Sparano's proposed testimony does not provide information about methodology and analysis based on proprietary software dependent on algorithms and coding structures that have not been revealed to the defense, involve technologies found by courts to not have specified error rates and have been described in court rulings and as subject to variables and uncertainties not acknowledged by Agent Sparano

The defense incorporates by reference the above arguments that cite the Seventh Circuit's ruling in *U.S. v. Hill*, *supra*, 818 F.3d 289, 298-99, as well as the analyses contained in the two recent rulings that have explained the FBI CAST methodology using "ESPA" software. As explained in the above-cited *U.S. v. Morgan, supra*, 292 F.Supp.3d 475, at 480-81, though it was not possible for an outsider to evaluate the ESPA mapping algorithm for accuracy (*id.*, at 480-81, fn.3), where there is drive testing, there is a parallel mapping process that provides some basis for an analysis of the reliability of the CAST Agent's opinions. There is no such foundation here. According to Gladiator Forensics' website (to which the defense was directed by the Government, see Exhibit

C), a software package and analytical frame in addition to ESPA is necessary for cell sector coverage estimation (that is the GAR software).

Similarly, as was discussed in the above-cited *U.S. v. Frazier*, *supra*, 442 F.Supp.3d at 1024-26, the end product of Agent Sparano's 'analysis' is dozens of pages of illustrations densely populated with a combination of highly specific mapping entries, together with entries purporting to show specified locations of given phones, cell towers, and the orientation of cell sectors under circumstances in which it is simply not possible for the Agent (as explained in the above-cited cases) to verify the illustrations as being accurate and reliable illustrations.

Among other things, there is no foundational information made available about the process by which historical cell tower location, antenna orientation and direction, and the retrospective description of the geography of Fresno and Tulare Counties (as shown) was input and verified. In the absence of the foundational information, this Court cannot be assured of the so-called '*Daubert* touchstones' of relevance and reliability.[18]

The defense also notes that it did present to the Court (and to Magistrate Judge Beeler) citations to literature that have been used to discuss the contours of the cell phone mapping process. In *U.S. v. Morgan, supra*, 292 F.Supp.3d at 478, the District Court made reference to Larry Daniel, *Cell Phone Location Evidence for Legal Professionals: Understanding Cell Phone Location Evidence from the Warrant to the Courtroom* (2017). Mr. Daniels's book identifies him in part as a Principal Consultant to Guardian Digital Forensics. This is a work that the Wendt defense had previously relied upon in explaining the need for further foundational information related to Agent Sparano's work. On the subject of 'How Maps Should Be Presented,' Mr. Daniel has written the following in the above-referenced book-length treatment:

> The fairest way to illustrate cell phone location evidence is by being clear about what is to be presented. Any map created by an expert or analyst should be based on known factors and should not lead the

[18] For citation to the phrasing used, see *Frazier, supra*, 442 F.Supp.3d at 1024-25.

> jury to believe that the expert knows more than is possible from a set of call detail records.
>
> That means that if the expert can determine from the call detail records the direction of the sector radios, that information should be in the map. However, unless there is a radio propagation map or drive testing map that is relevant, no information about radius or coverage should be assumed.[19]

Daniel also makes mention of the fact that where there is an area that is covered by two cell towers with antennas that are oriented such as to suggest coverage of similar areas, it is misleading to try to place the cell phone in a particular location.

> Remember, no one ever knows where the cell phone is. The best an expert can do is provide the cell tower locations used by the cell phone and the direction of the sector radio antennas, when known.[20] [21]

The Government is proposing to call Agent Sparano without either disclosing or having her discuss both the underlying methodology, approximations, and error rates involved in her use of black box software, the operational characteristics of which are not being discussed. The Court and defense have no way of evaluating either whether Agent Sparano correctly applied Gladiator Forensics' procedures, or whether those procedures produced reliable results in this case.

5. <u>In addition, Agent Sparano's opinions are not based on reliable or admissible mapping of cell site and cell phone information</u>

The above-stated argument is dependent on the same authority as is argument paragraph 3, above. The distinction between the arguments is that in one, the Wendt

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[19] Larry Daniel, *Cell Phone Location Evidence for Legal Professionals: Understanding Cell Phone Location Evidence from the Warrant to the Courtroom*, at pp.56-57.

[20] Daniel, at p.57.

[21] Mr. Daniel is listed in his book as Principal Consultant, Guardian Digital Forensics, An Envista Forensics Company. As this motion was being prepared, Mr. Daniel is still listed as connected with Envista Forensics in Morrisville, North Carolina. According to the listing that is posted and accompanied by a CV, Mr. Daniel "…has qualified and testified as a computer forensic expert, a cellular phone forensics expert, a GPS forensics expert, and a cellular technology expert over 50 times in state and federal courts."

defense is specifically focused on the undermining of the Court's ability to find the required technical and scientific reliability because the Government is dependent on largely undisclosed bases – that have previously been acknowledged as such for the reasons discussed in recently decided cases, including the above-cited *United States v. Morgan, supra*, 292 F.Supp.3d at 480-82, including footnote 3 referencing the proprietary algorithm of the ESPA software used by the FBI's CAST unit.

Here, Mr. Wendt adds one further element which was that in *Morgan*. The *Morgan* court built on Judge Gonzalez Rogers' ruling in *U.S. v. Cervantes*, 2015 U.S.Dist. LEXIS 127048, 2015 WL 5569276 (N.D.Cal, September 22, 2015)[cited with approval in *Morgan*, at 292 F.Supp.3d 478-79] to find that the methodology employed that included drive testing that served to provide some basis for a finding of reliability. As explained in *Morgan*, the drive testing (according to the information provided to it) was the process used by "…the professionals whom cellular companies depend on to reliably determine the coverage area of their own towers…." *Id.*, at 292 F.Supp.3d 484-85, fn.6. The court further explained: "Law enforcement officials employ drive testing because they believe it to be a more accurate method than historical cell-site analysis at approximating a tower's coverage area." *Id.*, at 483-84 [emphasis supplied].

In addition to objections based on failures of disclosure under F.R.C.P. 16(a)(1)(G), in this case, the *Daubert/Kumho Tire* lack of reliability objections and F.R.E. 403 objections are also informed by the current unknown information concerning the methodology for using ESPA software to perform a retrospective illustration process covering a cell network as it existed and operated six years ago.

In *Morgan*, 292 F.Supp.3d at 484-85, the District Court for the District of Columbia not only made reference to the above-cited *Cervantes* ruling in this District (in which there was in fact drive testing and output from a drive testing procedure with relevant technology) but also, the court made reference to a 2015 ruling from the Vermont Supreme Court. *Morgan*, at 484-85, *referencing State v. Pratt*, 200 Vt. 64, 128 A.3d 883, 891-92 (Vt, 2015). In *Pratt*, the focus was on the extraction of data from a cell

phone while referencing U.S. Supreme Court rulings like *Daubert, supra*, and *Kumho Tire, supra*. Part of the pertinence of the ruling to the *Morgan* analysis was that it assisted the *Daubert* court by reviewing cases in which computer software and other technology had been used "…for the extraction of data" (*Morgan*, at 484-85) where there was a specified form of reliability assurance. In *Morgan*, the court's ultimate conclusion was that "…drive testing can form the foundation for expert testimony if the expert acknowledges that drive testing only produces an approximation of a cell phone's location and the expert adequately accounts for elements that could affect the test's accuracy." *Ibid.* In *Pratt*, the Vermont court acknowledged a similar type of double and triple checking. The accuracy of the phone extraction was then reviewed by the investigating officer "…by comparing the computerized results to the results of a manual examination to verify the data that has been extracted and … he compares the results of his extraction with results from other forensic programs that overlap with Cellebrite." *Id.*, at 128 A.3d 883, 892-94. Here, there is no indication of the extent and utility of the ESPA mapping verification process.

The Government's January 15, 2021 disclosure directing the defense to 'Gladiator Forensics' and its website for further information discloses that there are two interrelated forensic software packages in a case like *Morgan* where there was drive testing. Here, only ESPA is involved. Appended to the declaration of counsel in support of this Motion, the Court will find downloaded information from the website of "Gladiator Forensics," which advertises itself as: "The gold standard for wireless network forensics." (See Exhibit C attached to defense counsel's declaration under title page "Gladiator Forensics." The Court will note that according to Gladiator's website – which is where the Government directed the defense to make inquiries after it finally revealed Gladiator Forensics as the purveyor of the CAST software in use to do mapping – Gladiator advertises what it calls "OSS Suite" as a "one system solution for wireless network forensics." (See referenced Exhibit C.)

The 'suite' is made up of four separate components, only one of which is "ESPA,"

a "geographic information system which seamlessly unifies case management, data storage, and analytics from all of Gladiator's intelligence gathering and analytical tools." While not disclosed to the defense in the January 15, 2021 disclosure of software pertinent to mapping is the second software package that is described in the above-referenced *Morgan, supra*, ruling. That is "GAR" aka "Gladiator Autonomous Receiver" "…a wireless network Recon platform, uses patented analytics to prioritize and confine search areas in-line with actual RF network coverage and cell-tower activity."

First, it must be underscored that **none** of the operating characteristics of any of the Gladiator Forensics software packages involved in this case have been made known to the defense.

Second, as explained the case law referenced immediately above, which the defense recognizes will be instructive to this Court, it is clear that at least in *Morgan* it was a combination of Gladiator-based platforms that were necessary to assure the admissibility (apparently over objection) of the proposed opinion evidence. This raises the issue that the utility of ESPA software where there is no drive testing – and the related error rates and reliability issues cannot be discerned from the currently available Sparano disclosures.

6. <u>The relevance of Agent Sparano's analysis is dependent on proof of the relevance and admissibility of the information about the target phones</u>

Part of the Government's goal in introducing the opinion testimony of Agent Sparano is to establish a pattern of communication near the time of what the Government contends was the death of Mr. Silva such as to be able to demonstrate the existence of the conspiratorial act involving the Silva killing charged in Count 1, the existence of the conspiracy charged in Count 2, and the fact of the homicide charged in Count 3.

Agent Sparano does not indicate any awareness of information about the identity of individuals who actually possessed the handsets that used target phone numbers in mid-July 2014. The evidence is relevant only if foundational information can be

presented such as to demonstrate that there would be a basis – setting aside the many objections raised here – for Agent Sparano's opinion testimony. Without such a basis, the testimony is neither relevant nor admissible given the dictates of F.R.E. 403.

7. Because Agent Sparano is using limited data to conduct a retrospective analysis of phone locations in several distinct geographical locations, her opinion testimony is not the product of a reliable methodology and should be excluded

The defense is submitting to the Court an article that is instructive on the issues presented here, namely Aaron Blank's article "The Limitations and Admissibility of Using Historical Cellular Site Data to Track the Location of a Cellular Phone," 18 RICH. J. L. & TECH. 3 (2011). [See Exhibit B.]

As demonstrated in the discussion that precedes this specific objection, there is an inadequate foundation for the Government to introduce its opinion evidence in the form that it has proffered it in – Agent Sparano cannot assist the Government by demonstrating the reliability of the methodology that went into 'mapping' her case-related opinions based on historical call detail records for the reasons explained above.

In addition, there are separate issues that are raised about the use of historical call detail records, and especially those pertinent to AT&T's cell phone system, and a retrospective analysis of location information based on historical AT&T records. There is little indication of what effort has been made to verify the utility of the records or the mapping of the areas involved as they existed in 2014.

A prosecuting attorney who has written a number of publications on cell phone investigations has written a book length treatment titled *Cellphone Investigation Series: Preparing, Analyzing, and Mapping AT&T Records* (2017). Both online and on the back page of the publication, the author, Kevin Metcalf, is described as follows: "Kevin Metcalf has worked in law enforcement since 1989 ranging from local to federal agencies. He graduated law school in 2007 and currently works as a prosecuting attorney

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with a focus on computers and cell phones in criminal investigations and prosecutions."[22]

In Metcalf's book, he explains the following about a particular aspect of AT&T records:

> NELOS (Network Event Location Services) are historical precision location records that contain best guess location estimates for the handset, not the towers, within a margin of error.[23]

Elsewhere in his book, describing NELOS in further detail, Metcalf explains the following:

> NELOS records provide latitude, longitude, and an estimate of location accuracy (margin of error) for each point. The information is the same as what is provided for real-time "ping" data, with the difference being the level of confidence in the accuracy. *Historic location information is always either far less accurate or the confidence in the reliability of that accuracy is far less.*[24]

This view of what is available through AT&T (for a period of 90 days after the call events) via NELOS is also discussed in a publication of California's CEB, the joint venture between the University of California and the State Bar. An online search for NELOS produces an excerpt from a CEB publication on cell phones that specifically addresses NELOS (see Exhibit A).

The defense asked the Government for NELOS information, and in the Government's reply to the jointly filed appeal/Rule 59(a) of Judge Beeler's Order concerning Agent Sparano related material, the Government explained as follows: "Defendant Wendt's reprisal of its reference to AT&T NELOS data is further illustrative of the defense's scattershot approach to its requests. He asserts that the NELOS

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[22] From the back page of Metcalf's *Cellphone Investigation Series: Preparing, Analyzing, and Mapping AT&T Records*

[23] Metcalf, *supra*, at page 32.

[24] Metcalf, at 115 [emphasis supplied].

documents 'are *nowhere* mentioned in the disclosures in this case.' [Citation omitted.] The Government has specifically disclosed to the defense the exact data used in SA Sparano's approach, which defendants received over one year ago. [Citation omitted.] *There was no NELOS data that was utilized, which would have been evident if the defense reviewed the data or retained the help of an expert to do so*."[25]

Indeed – the Government is right. The defense was able to see from the disclosures provided by the Government that there was no NELOS data utilized, which underscores the problem that the Government faces now. It is attempting to use only some of the available information that AT&T provides when litigants obtain AT&T records in its effort to have Agent Sparano synthesize its case against Mr. Wendt and his co-defendants. And as the Government itself admits, now further explained by references to literature on the implications of what the Government actually has in hand to work with, it is clear that in order to profess accuracy in any type of retrospective interpretation of AT&T's data, the Government is limited. Kevin Metcalf, a prosecutor who is involved in litigations concerning cell phones, has made this point in his writings.

In *U.S. v. Hill, supra*, 818 F.3d 289, the Circuit Court reviewed testimony that had been offered in that case by an FBI Agent, including "…statements about how cell phone towers operate." *Id.*, at 296-97. Noting that there have been various legal analyses given to cell phone evidence by circuit courts, the Seventh Circuit reviewing rulings from the Fourth and Tenth Circuit concluded that such evidence "…fits easily into the category of expert testimony, such that Rule 702 governs its admission." *Id.* The Seventh Circuit cited precedent from both the Fourth and Tenth Circuits in making this pronouncement. In its analysis in *Hill*, the Seventh Circuit explained that the admission of evidence concerning cell phone communications must be done on a case-specific basis, since under *Daubert, supra*, 509 U.S. at 594, the focus is not whether a certain subject matter has

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[25] From the Government's Response to Defendants' Appeal of CAST Discovery Order by Magistrate Judge (Doc 1395), filed January 7, 2021, at page 15.

been subject to general acceptance or prior admission, but rather whether the technique used in a specific case has been accepted "…in the relevant *expert* (scientific or otherwise) community." *Daubert, supra*, 509 U.S. at 594; *Hill, supra*, 818 F.3d at 297-98 [emphasis in original]. As the *Hill* court noted, it was reviewing a case in which the testifying Agent had been the subject of a prior District Court opinion (*U.S. v. Evans*, 892 F.Supp.2d 949, 956 (N.D.Ill, 2012), which found historical cell site analysis admissible but the Agent's use of a novel and untested theory of 'granulization' by the Agent untested and inadmissible. *Hill*, at 297-98.

Tellingly, the *Hill* court explained that: "No federal Court of Appeals has said authoritatively that historical cell-site analysis is admissible to prove the location of a cell phone user." *Id.*, at 297-98. In further explaining its view of the prevailing law on cell phone related testimony by law enforcement personnel, the *Hill* court reviewed some unpublished rulings from the Fifth and Sixth Circuits, noting criticism of historical cell phone analysis used to prove the location of a cell phone user, concluding that the rulings provided "…hardly a ringing endorsement…" of the technique. *Id.*, at 297-98.

In *Hill*, the Agent had reviewed historical cell site information during his testimony, and the Government argued that the Agent's evidence demonstrated that Hill's alibi – an attempt to place himself at a location other than a particular bank – was undermined by the cell phone records. The Seventh Circuit noted that the Agent "…emphasized that Hill's cell phone's use of a cell site did not mean that Hill was right at that tower or at any particular spot near that tower. This disclaimer saves [the Agent's] testimony." 298-99. In its analysis, the Seventh Circuit made reference to the above-cited and appended article from Aaron Blank (along with others) and explained: "The advantages, drawbacks, confounds, and limitations of historical cell-site analysis are well known by experts in the law enforcement and academic communities. [The testifying Agent] described many of them at trial." *Id.*, at 298-99. *Hill* did not involve historical analysis of multiple phone records in several different areas using ESPA.

The decision in *Hill* was cited at some length by Judge Grimm in *U.S. v. Medley*,

312 F.Supp.3d 493 (D.Md, 2018). As have several District Judges in recent published rulings, Judge Grimm summarized the various cases that have considered the admissibility of cell phone evidence, as well as literature including the above-cited (and appended) article from Blank. He concluded that because the testimony in the case before him was proposed to make reference to the general area in which a phone was located shortly before a specified time of day, the proposed testimony was "…reliable enough for Rule 702 to show the *general location* of a cell phone…" at that particular time and date. *Id.*, at 500-01. Judge Grimm cited Mr. Blank's appended article in explaining the variables that can influence where a cell phone connects. The Judge concluded that the admission of proposed testimony about approximate location of a cell phone based on historical records needs to include testimony about "the strengths and limitations of the particular method used to do so…." *Id.*, at 501-02. Judge Grimm emphasized more than once that the admission of opinion evidence about the use of historical cell phone record evidence has to include 'a candid explanation' of its strengths and weaknesses. *Id.*, at 502.

In this connection, it is worth noting some of what Aaron Blank explains in his above-cited (and appended) article the factors that need to be explained when cell phone evidence based on historical records is reviewed.

a. The basic principles involved in cellular phone analysis issues provide the basis for some of the objectives stated.

1. The Cell Phone and Its Network.

> A cellular phone operates as a two-way radio that transmits and receives signals throughout a cellular network. [Footnote omitted.] The design of a cellular network is divided into "geographic coverage areas called 'cells,'" arranged in the pattern of a hexagonal grid or honeycomb. [Citation omitted.] The point where three cells meet is called the cell site (or cell tower). [Footnote omitted.] The number of antennas operating on the cell site, the height of the antennas, topography of the surrounding land, and obstructions (both natural and man-made) determine the size of each cell's coverage area.

> [Citation omitted.] One call may cover an area up to 30 miles from the site, for a coverage area of approximately 2700 square miles. [Citations omitted.] Other cells may cover much small areas, ranging from one to three miles from the site. [Citations omitted.] Urban areas may have cell sites located every one-half to one mile, whereas more rural areas may have cell sites every three to five miles. [Citations omitted.][26]

The Blank article goes on to explain that a number of factors will explain how a cell phone will link with a particular cell site or cell tower. Aaron Blank explains that as a cell phone moves in an area "...handing-off will occur as a cell phone user moves throughout multiple coverage areas. [citation omitted.] However, the geographic location of the user is not the only reason for a call switching cells, since many other factors may affect the signal strength between a cell phone and site. [Citation omitted.]"[27]

b. Multiple factors affect the analysis of cell phone connection characteristics.

In pertinent part, Blank explains the technical issues that may affect which cell sites are involved in the transmission of cell phone radio waves–either reception or transmission: "First, the technical characteristics of cell sites may affect signal strength: (1) the number of sites available; [citation omitted] (2) maintenance or repairs being performed; (3) height of the cell tower; (4) height above sea level; (5) wattage output; and (6) range of coverage. [Footnote omitted.] Second, technical characteristics of the antennas on cellular sites may affect signal strength, such as the number of antennas, the angle and direction the antenna is facing, height of each antenna, and call traffic process through each antenna. [Footnote omitted.] Third, technical characteristics of the phone, such as the wattage output and generation of the phone's broadband capability, may affect signal strength. [Footnote omitted.] Fourth, signal strength may depend upon environmental and geographical factors, including the weather, topography, and level of

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[26] Blank, *supra*, 18 RICHMOND J. L. & TECH. at p.3, pp.5-6.

[27] Blank, at p.6-7; attached as an Exhibit B.

urban development. [Footnote omitted.] Finally, indoor or outdoor use of the phone may alter the strength of the signal. [Citation omitted.]"[28]

c. Without hearing from Agent Sparano about the actual contents of the records she obtained and those records that were not obtained, the Court cannot assess either the reliability of the analysis or the strengths and weaknesses of the proposed opinion testimony.

The above quotations from Mr. Blank's appended article set forth some of the discussions of the variables that exist in merely describing the factors that can influence the operation of a cell phone network system and influence the attempts to 'localize' phone calls. But there are other variables that the Court should consider in deciding whether to allow the admission of Agent Sparano's opinion evidence over objection – and without a hearing. The defense has made reference to Judge Grimm's above-cited ruling in *U.S. v. Medley*, 312 F.Supp.3d 493, a case in which the Court did admit the testimony of an FBI Agent about the general location of a cell phone in relation to given cell towers at a particular time and place. *Id.*, at 499-500. The court did so, provided that a "…cautionary approach" was used to explain the variables that are discussed in Mr. Blank's above-cited article. *Medley*, at 500-02.

However, of considerable importance to the discussion in *Medley* was the finding by the court that part of the foundation for the historical analysis done in that case was the obtaining of a set of records from the Sprint Corporation that provided a series of data points as a result of the way Sprint maintains its records. See, generally, the description of the nature of the "…various records from Sprint Corporation…." *Id.*, at 502-03. In the ruling, the court set forth the specific categories of data discussed and made available in the Sprint call detail records.

Here, in this case, as explained in the introduction to this argument, the

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[28] Blank, at pp.7-8.

Government has admitted that there are categories of AT&T records – the above-referenced 'NELOS' records, for example – that were not obtained. In his AT&T records specific book, Kevin Metcalf explains that:

> AT&T provides its records to law enforcement formatted as text and PDF files with the records of multiple target phone numbers combined as single files depending on type such as subscriber, tower, or device location records. AT&T's main location record types are identified as SCAMP or NELOS.[29]

As explained in the above introduction, the Government has already chided the Wendt defense, in another pleading (Doc 1395, at 15:18-19), explaining: "There was no NELOS data that was utilized…."

The task at hand in *Medley* involved a much more constricted and historically recent analysis than the one that is proposed here. In this case, the Court has before it a proposed opinion that covers multiple handheld cell phone units and multiple locations – including locations in different states and an expanse of territory within the State of California. The analysis includes not only calls but also texts and the transmission of other forms of data – not all of which are subject to verification through the same AT&T records.

In sum, part of the problem here is that thus far the Government has been permitted to use shorthand information about the details of its analytical process. The fact that it required multiple requests for the Government to finally agree to provide some degree of specific identification of the purveyor of the ESPA mapping software used is one example of the limitations that the Government has imposed on the flow of information that is necessary for a fair analysis of its proposed evidence.

The defense has pointed out by referencing cases like the above-cited *Morgan, supra*, 292 F.Supp.3d 475, decision that a number of issues are of concern where the

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[29] Metcalf, *supra*, *Cell Phone Investigation Series: Preparing, Analyzing, and Mapping AT&T Records*, at p.32.

Government essentially puts a combination of inference, argument, and commentary on the face of illustrative maps that essentially display the Government's argument about what it contends call detail records show.

The difficulty, as has been argued above in this pleading, is that here the Government has not been able to undertake the kind of verification process that has accompanied the admission of mapped opinion evidence.

The Government has characterized Agent Sparano as using historical cell phone company records to produce her illustrated analysis, but as pointed out in *Medley, supra*, the question now is to assess exactly what records and what the strengths and limitations of those records are – given that the Government has admitted that it did not obtain AT&T's proprietary NELOS information in relation to the calls it is focused on in this case.

In his reply to the Government's response to the joint defense letter request re CAST expert discovery (Doc 1364), Mr. Wendt had cited several unpublished cases, one Federal and the rest from various state courts, making reference to NELOS data as it was used in cases involving AT&T records. One of these, *Browning v. State*, 220 Ind.App. Unpub. LEXIS 959 (Indiana Court of Appeals, August 6, 2020), was a case in which an FBI Agent had assisted in the investigation of a state case and had used "…the NELOS and Drive Test data to create maps depicting approximate locations for [the suspects'] cell phones during the relevant time…." *Id.*, at 5-6.

The cases that were cited in the Wendt discovery-related submission were intended to clarify the Wendt defense's reasoning for asking for further information about the bases for Agent Sparano's opinions, since there are rulings in which courts have addressed methodologies that involved law enforcement agents and officers using AT&T records as part of a cell phone analysis that resulted in the production of maps. The fact that there was neither NELOS data obtained here, nor drive testing, and that Agent Sparano's opinions are not phrased in terms of the cautionary notes from some of the most recent Federal court opinions makes it clear that without hearing from Agent

Sparano concerning her methodology, the Court cannot make a fully informed decision on whether to admit any of her testimony without getting additional information about her analysis and methodology.

8. The records employed by Agent Sparano contain hearsay; other parts of the records are generated through a process that is employed primarily to prepare materials for prosecution purposes and are 'testimonial' within the meaning of *Bullcoming v. New Mexico*, 564 U.S. 647 (2011) and *Crawford v. Washington*, 541 U.S. 36 (2004)

Separate issues are raised by the foundation that Agent Sparano relies on to formulate her opinions and create her exhibits. She is relying on the records maintained by AT&T, which are transmitted to law enforcement officials pursuant to a warrant process and are prepared to lay out specific information requested by law enforcement officials. In the declaration that she prepared on August 12, 2020, Agent Sparano explains that she was provided "sets of CDRs and address information/facts concerning the crime…," and she further states, "I understand that the CDRs provided to me were obtained from search warrants executed in this case for a set of nine phone numbers of interest in the suspected homicide. The CDRs contained information regarding the towers accessed for each phone call, text message, and data session."[30]

Several courts have explained, as summarized in *United States v. Yeley-Davis*, 632 F.3d 673, 678-81 (10th Cir., 2011), that cell phone records in themselves if established to be business records can be admitted under F.R.E. 803(6). The specific wrinkle that has been discussed in connection with the records that are prepared by a cell phone company pursuant to a warrant, through the cell phone company's legal affairs division specifically to meet the requirements of the subpoenaing agency raise questions about reliability, including whether a statement that qualifies for an exception to the hearsay rule may nonetheless constitute testimonial hearsay. *Id.*, at 679-80.

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[30] The quotations are from page 7 of Doc 1396-4, which is the last page of Agent Sparano's August 12, 2020 declaration at paragraph 13. Another identifier for this page is at the bottom right, designated "EXPERT-00002102."

As explained in the above-stated objections about the foundation for the admission of Agent Sparano's opinion testimony (argument 3, above), a question that arises where there are specific entries made by an expert in an illustration or a map – the tacking or physical entry of a label on a map with a name or coordinates entered – that is "…classic hearsay…." *U.S. v. Lizarraga-Tirado, supra*, 789 F.3d at 1107, 1109-10. It is the functional equivalent of hand drawn additions on a map. The court explained in *Lizarraga-Tirado* that the manual placement of a notation or label on a map is the equivalent of drawing an X to label a place where "…treasure can be found." *Id.* "Similarly, a user could place a tack, label it with incorrect GPS coordinates, and thereby misstate the true location of the tack." *Ibid*.

Thus, one concern the Court must have is that some of what Agent Sparano is being called to do is to testify based on what amounts to hearsay placed on a map. A second matter of concern involves the undermining of the defense's cross-examination rights.

The refinement of the question about the implications of confrontation are discussed in *Bullcoming v. New Mexico*, 564 U.S. 547 (2011). In that case, a forensic laboratory report prepared by one analyst was used as the foundation for testimony by another. The question raised was whether under the U.S. Supreme Court's interpretation of the reach of the Confrontation Clause in the aftermath of the court's decision in *Crawford v. Washington*, 541 U.S. 36 (2004). The point made in *Crawford* was that the admission of testimonial statements of a witness who is absent from trial can only occur where there has been an opportunity for cross-examination. *Id.*, at 68. In a subsequent ruling, *Melendez-Diaz v. Massachusetts*, 557 U.S. 305 (2009), the Court had refused to create a 'forensic evidence exception' to the *Crawford* rule. *Melendez*, 557 at 317-21.

The *Bullcoming* Court reiterated that confrontation is necessary to ensure the kind of reliability required where evidence is prepared for litigation, and the individuals responsible for the preparation of that evidence – here, records formatted for use by law enforcement in a pending litigation – will be relied on by other testifying witnesses in the

criminal prosecution. In *Bullcoming*, the outcome was that regardless of the certification process that might have occurred as part of the production of a laboratory report, the right of confrontation needs to be protected, and documents and their contents cannot simply be read into the record and interpreted by an individual who was not part of the process that produced them in the first place.

Here, Mr. Wendt objects that some of the information in the documents obtained from cell phone companies pertinent to the nine phones referenced by Agent Sparano is hearsay – the documents contain statements that the Government will seek to introduce for the truth of the proposition stated. Second, even assuming that the Court finds that all aspects of the records obtained from cell phone companies pursuant to warrants and used by Agent Sparano qualifies exceptions to the hearsay rule under F.R.E. 803(6), nonetheless, these records are not the sorts of records that are maintained by cell phone companies for the purposes of conducting their commercial cell phone business. These are records that are produced in specific formats to satisfy law enforcement purposes. Third, as noted above, any entries made by hand by Agent Sparano on the maps would be hearsay. All of these are clearly, then, subject to the analysis set forth in rulings like *Melendez-Diaz* and *Bullcoming* since these records are being relied upon by someone who did not produce them originally, and has integrated them into a subsequent analysis that repeats at least part of their contents as though the records are unassailable and completely reliable.

Mr. Wendt objects that the records cannot be admitted without the Court permitting examination of those who produced them. Moreover, the records cannot simply be read into the record for the reasons stated. In addition, the Court cannot allow entries on the Sparano ESPA mapping that were made or directed by Agent Sparano without suitable foundational inquiry.

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9. The Court should exclude Agent Sparano's opinion testimony in that its potential relevance is outweighed by the substantial danger of unfair prejudice; confusion; or misleading the jury within the meaning of F.R.E. 403

The defense is objecting that Agent Sparano's testimony is neither reliable nor relevant given the foundational flaws in it within the meaning of F.R.E. 702. See also, *Daubert, supra*, 509 U.S. at 588. The Court of Appeals for the Eleventh Circuit reviewed the state of the law on the introduction of expert evidence with a scientific basis in *United States v. Frazier*, 387 F.3d 1244 (11th Cir., 2004), where it explained: "The importance of *Daubert's* gatekeeping requirement cannot be overstated." *Id.*, at 1260-61.

Part of the analysis offered above demonstrates that Agent Sparano is not relying on facts or data that are "…of a type reasonably relied upon by experts in the particular field in forming opinions or inferences upon the subject." F.R.E. 703. Moreover, the defense has also underscored questions about the methodology used, particularly to provide the purported analysis of where particular communications occurred as set forth on illustrations and maps that cannot be demonstrated to be supported by "…a grounding in the methods and procedures of science." *Daubert, supra*, 509 U.S. at 590-91. "Proposed testimony must be supported by appropriate validation – i.e., 'good grounds,' based on what is known." *Id.*, at 590-91. As pointed out in *Kumho Tire, supra*, 526 U.S. at 152, the same criteria are used to assess the reliability of nonscientific evidence that is based on an expert's experience or that is proffered based on technical knowledge derived through experience.

One backstop that courts have to limit or exclude potentially misleading expert evidence is F.R.E. 403. "Because of the powerful and potentially misleading effect of expert evidence,…sometimes expert opinions that otherwise meet the admissibility requirements may still be excluded by applying Rule 403." *Frazier, supra*, 387 F.3d at 1263. "The judge in weighing possible prejudice against probative force under Rule 403…exercises more control over experts than over lay witnesses." *Id.* (internal quotation omitted); *see also, U.S. v. Stevens*, 935 F.2d 1380, 1399 (3d Cir., 1991).

In *United States v. Ramirez-Robles*, 386 F.3d 1234 (9th Cir., 2004), a case in which the court was reviewing a decision on the admission of testimony related to polygraph evidence, the court explained: "Regardless of the reliability that a *Daubert* hearing may or may not have shown in this case, the polygraph testimony could have been excluded by Rule 403 if its probative value is outweighed by its prejudicial impact." *Id.*, at 1246. The Ninth Circuit made the point in that case that 'Rule 403 and *Daubert* operate independently.' *Ibid.* The court cited a prior decision of the Ninth Circuit, *U.S. v. Benavidez-Benavidez*, 217 F.3d 720, 725 (9th Cir., 2000), and explained that it had been proper in the *Benavidez* litigation for the District Court to decline to reach the *Daubert* decision "…because the district court's decision to exclude the polygraph evidence could be upheld on the basis of Rule 403 alone…." *Ramirez-Robles*, at 1246-47. This approach has been cited in Ninth Circuit rulings since. See, for example, *U.S. v. Kootswatewa*, 2016 U.S.Dist. LEXIS 25936 (D.C.Arizona, March 2, 2016), addressing the application of the analysis under F.R.E. 702 and 403 in a DNA challenge case; see the ruling from the District Court in *U.S. v. Williams*, 2013 U.S.Dist. LEXIS 120884 (D.Hawaii, August 26, 2013), also on DNA and serology evidence.

The United States Supreme Court explained in *Old Chief v. United States*, 519 U.S. 172, 182 (1997) that to determine whether the prejudicial effect of evidence substantially outweighs its probative value, a trial court conducts a balancing test, weighing the probative value of the evidence against the dangers listed in Rule 403. The Advisory Committee Note to Rule 403 explains that "'[u]nfair prejudice' within [this] context means an undue tendency to suggest decision on an improper basis, commonly, though not necessarily, an emotional one." The Eleventh Circuit summarized the applicable doctrine as follows: "Simply put, expert testimony may be assigned talismanic significance in the eyes of lay jurors, and, therefore, the district courts must take care to weigh the value of such evidence against its potential to mislead or confuse." *United States v. Frazier, supra*, 387 F.3d 1244, 1263-64.

Several different matters intersect to militate in favor of not permitting the

Government to use argumentative summarized annotations on a series of maps that were created through a methodology that Agent Sparano has not either explained or sought to verify following the procedures that were followed in cases that included the several covered above, not the least of which is *U.S. v. Frazier, supra*, 442 F.Supp.3d 1012. As the court explained there: "Just as the Government cannot oversell the methodology through testimony, it cannot oversell the methodology through the introduction of evidence. [Footnote omitted.]" *Id.*, at 1024-25. In the relevant footnote, the court rejected the notion that it did not have an independent duty to assess whether the resulting mapping report would be inadmissible as a summary report at trial. The court explained that, among other things, "…it has an independent obligation to determine whether an exhibit is or is not admissible." *Id.*, at 1025, fn.4.

As the defense explained above, there are cases in which a map produced by an FBI CAST expert was admitted at trial, together with the Agent's testimony. In 'almost every one' of the cases in which he had testified, the Agent's testimony had involved a drive test. *U.S. v. Morgan, supra*, 292 F.Supp.3d at 278-79. Even drive testing, as explained in *Morgan, supra*, according to the testimony received by the court, cannot "…perfectly replicate how a cellphone would interact with a network on a past date." *Id.* The *Morgan* court pointed out that as in the case of any similar endeavor, the court needed to make sure "…whether the government has adequately addressed potential sources of error…" in the use of drive testing as a methodology, and as a methodology applied in the case at issue, referencing Judge Gonzalez Rogers' ruling in *United States v. Cervantes*, 2015 U.S.Dist. LEXIS 127048, 2015 WL 5569276 (N.D.Cal, September 22, 2015)[Northern District Case No. 12-CR-00792]. *Morgan*, at 279-80.

As explained in the *Morgan* ruling, the CAST Agent in that case was using technology from Gladiator – the same company involved here. He was using a Gladiator Autonomous Receiver (GAR), a mobile computing system that interacts with ESPA software, permitting, among other things, adjustments in the output. *Morgan*, at 480-81.

According to the testimony received in the *Morgan* case, drive testing technology

"…provides the best available verification of a tower's estimated coverage area. [Referencing the testimony.] *Id.*, at 481-82. The *Morgan* court further explained that it had received testimony that the mapping process through ESPA (referenced as a "post-processing program") did not take into account changes in environmental factors between the time of the incident and the time of the drive test in that case; changes to a tower that affected coverage area at the time of the incident. *Id.*, at 481-82. Discussion of potential errors in *Morgan* was linked to the methodology used – which was drive testing and not exclusive use of historical call detail records – which the Government admits are not accompanied by other forms of AT&T records using AT&T's proprietary location data. In *Morgan*, a situation that involved an analysis of a phone network in a particular geography after the alleged commission of a crime that would be later prosecuted at trial, the government still conceded "…that the generated coverage-area maps are not perfect, and (2) those maps cannot pinpoint defendant's exact location at any time…." *Id.*, at 485-86.

In this case, the Government is seeking to introduce to the jury a set of synthesizing illustrations based on an incomplete set of cell phone company records, a retrospective analysis that goes back six years, without any of the limiting information or fulsome explanations of the weaknesses and error rates involved in the process used. Added to all of these factual problems is the fact that the Government used something other than what it has characterized in *Morgan* as "…a more accurate method than historical cellsite analysis at approximating a tower's coverage area." *Id.*, at 484-85.

As the Court is aware, as a result of its ruling on cell phone discovery matters entered on January 13, 2021, the defense at least was provided the benefit of the identification of the mapping software used by the Government. It was identified to the defense as Gladiator Forensics' "ESPA." A copy of the Gladiator Forensics web page is appended in the exhibits attached to counsel's declaration. As explained in the foregoing discussion, 'ESPA' has been referenced in case law, usually in connection with mapping processes that were prompted by drive testing. This is clearly the case in the above-cited

Morgan, supra, ruling.

And indeed, that makes sense given the way Gladiator Forensics advertises the software as one of a software "suite." ESPA is described as follows [see Exhibit C appended to counsel's declaration]:

> Enterprise Sensor Processing and Analytics is Gladiator's forensics geographic information system which seamlessly unifies case management, data storage, and analytics from all of Gladiator's intelligence gathering and analytical tools. The unified command center for real-time monitoring, network Recon, and historical CDR and geo-location data, for a complete and comprehensive assessment of telecom evidentiary data.

It is doubtful that the Court will get much more from the announcement in the web page information than did the defense in this case. Indeed, as pointed out above, when Judge Gonzalez Rogers entered her order in *U.S. v. Cervantes, supra*, 2015 U.S.Dist. LEXIS 127048, she did credit one of the bases for the defense's motion to exclude testimony of the FBI's CAST team members insofar as the analysis by the CAST investigator "depends on historical information and later experiments at an unspecified time after the data in question, such that they do not provide a reliable basis [under the law] for the experts' retrospective conclusions about cell phone data." *Id.*, at *8-9 [summarizing the defense objection on a particular point]. While Judge Gonzalez Rogers did admit the evidence generated as a result of the drive testing, in her September 22, 2015 ruling, she found that because of the delay "…between the time of the events in question and the field experiments conducted by the FBI CAST agents…the government had not adequately explained differences in cell phone or antenna characteristics, reception or wave propagation in the field test conditions such that Judge Gonzalez Rogers found that there needed to be "some additional foundation" offered. *Id.*, at *12-13. Judge Gonzalez Rogers ordered that the foundation be made available.

Here, the foundational issues that bar the admissibility of the Government's evidence are far greater – because the analysis is more complex, it involved no drive testing, foundational information essential to the determination of the reliability of the

information proposed to be provided to the jury in this case has not been provided in a way that would permit the parties, let alone the Court, to determine the reliability of the methodologies here.

This Court cannot admit the evidence supplied by the Government in connection with Agent Sparano's proffer either under an F.R.E. 702 analysis or an in view of the dictates of 403. The proposed testimony, especially as reflected in Agent Sparano's August 12, 2020 declaration, is not in line with the recent rulings that have allowed testimony from CAST experts. The Court needs to exercise its gatekeeping obligation and exclude the evidence. The dictates of F.R.E. 403 require it.

CONCLUSION

For the reasons stated here, the Court should exclude Agent Sparano's opinion evidence. If the Court is not inclined to do it on the papers, it should do so after a hearing.

Dated: January 29, 2021

Respectfully Submitted,

JOHN T. PHILIPSBORN
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/s/ John T. Philipsborn
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/s/ Martin A. Sabelli
Attorneys for Brian Wayne Wendt

PROOF OF SERVICE

I, Melissa Stern, declare:

That I am over the age of 18, employed in the County of San Francisco, California, and not a party to the within action; my business address is Suite 350, 507 Polk Street, San Francisco, California 94102.

On January 29, 2021, I served the within document entitled:

MEMORANDUM OF POINTS AND AUTHORITIES IN SUPPORT OF MOTION TO EXCLUDE OR LIMIT THE TESTIMONY OF FBI OR OTHER EXPERT WITNESSES TESTIFYING ABOUT CELL PHONE COMMUNICATIONS AND LOCATIONS BASED ON HISTORICAL CELL CALL DETAIL RECORDS AND PROPRIETARY MAPPING SOFTWARE [*DAUBERT* AND F.R.E. 403]; MOTION FOR EVIDENTIARY HEARING

( ) By placing a true copy thereof enclosed in a sealed envelope with postage thereon fully prepaid, in the United States Mail at San Francisco, CA, addressed as set forth below;

(X) By electronically transmitting a true copy thereof through the Court's ECF system;

( ) By having a messenger personally deliver a true copy thereof to the person and/or office of the person at the address set forth below.

AUSA Kevin Barry
AUSA Ajay Krishnamurthy
AUSA Lina Peng

All defense counsel through ECF

Executed this 29th day of January, 2021, at San Francisco, California.

Signed: */s/ Melissa Stern*
Melissa Stern